A NEW APPROACH TO MARKET SEGMENTATION STRATEGY: A BANKING APPLICATION

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RESUME

Cette communication porte sur les possibilités de segmentation stratégique qui s'offrent à un établissement bancaire. En s'appuyant sur des données empiriques, l'utilité d'opérer une distinction entre les consommateurs qui sont loyaux et ceux qui le sont moins est mise en évidence. Le concept de style cognitif est enfin introduit, comme complément possible des bases de segmentation traditionnelles.

ABSTRACT

This article focuses on the types of strategic segmentation alternatives available to banks. Using empirical data it demonstrates the usefulness of distinguishing between loyal and less loyal bank customers. The concept of cognitive style is finally introduced as a viable complement to more traditional segmentation bases.

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INTRODUCTION

Market segmentation has long been considered one of the most fundamental concepts of modern marketing strategy. It provides the firm with guidelines on how to allocate its resources among products and markets. The variables used as bases for segmentation have included almost all variables suggested in the consumer behavior literature (Wind, 1978). The authors analyze groups of bank customers and then propose a new approach to segmentation. It is suggested that markets can be segmented according to the cognitive styles of consumers. The concept of cognitive style refers to relatively permanent differences in the manner in which individuals acquire and process information (Witkins, 1964; Messick, 1976; Pinson, 1978). More specifically it was hypothesized that the cognitive styles of bank patrons would be related to such strategic segmentation basis as: 1) bank loyalty 2) deal proneness 3) innovativeness regarding new bank services and 4) perceived bank/market differentiation.

BANK LOYALTY

The concept of bank loyalty refers to the customer's tendency to patronize a given bank. If some individuals have a natural tendency to be loyal, a bank manager might be able to secure a larger share of these more profitable customers. This could be a viable alternative to building volume through added customers. A warning that the battle for customer loyalty in the banking field may be entering a new phase comes from the fact that most banks find it more and more difficult to compete with other banks in saturated trading areas.

As indicated by research on store/brand loyalty, the number of factors that can conceivably be associated with, and influence bank loyalty is potentially infinite. In order to convince the bank manager that the concept of loyalty can form a useful basis for marketing strategy, it was decided to investigate certain behavioral characteristics of bank loyal customers.

Measurement of bank loyalty

As suggested by the literature on store/brand loyalty (Charlton, 1973) different ways of operationalising bank loyalty (BKLY) are available. BKLY can be measured by the number of banks patronized during the survey period, by the percentage of certain services used at a given bank, by the percentage of banking business allocated to a given bank, or by a combination of the above. Alternatively BKLY can be measured by using psychographic scales. In this study, a multi-method approach to operationalizing bank loyalty was adopted.

The first measure of BKLY, BKLY-1 focused on the actual banking behavior of customers. Subjects were asked to indicate which of the services listed in Table 1 they currently had at each of the 6 major financial institutions[1] in the sampled metropolis. Following Carman (1970), bank loyalty for each subject was then measured by entropy, e_i, as follows:

$$e_i = - \sum_{j=1}^{6} p_{ij} \log (p_{ij})$$

where, $i = 1, 2, \ldots, N$ (respondent)

$j = 1, 2, \ldots, 6$ (financial institution)

such that,

$$p_{ij} = \sum_{k=1}^{12} X_{ijk} \Big/ \sum_{j=1}^{6} \sum_{k=1}^{12} X_{ijk}$$

= proportion of patronage of i-th subject going to j-th financial institution

$$X_{ijk} = \begin{cases} 1, & \text{if the i-th subject utilizes k-th service at the j-th financial institution} \\ 0, & \text{otherwise} \end{cases}$$

$k = 1, 2, \ldots, 12$ (financial services)

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1 For obvious practical reasons it was not possible to use all the banks available in the area. However, the 6 major banks retained for the study have a total market share of over 90% in the sampled area.

The second measure of BKLY, BKLY-2 was obtained by summing up response scores to the 6 items presented in Table 2. Because it was felt that BKLY-2 was perhaps tapping two different underlying dimensions BKLY-2 was further decomposed into two additional measures. BKLY-3 corresponds to the two items in Table 2 which are marked with an asterisk. This measure implicitly interprets bank loyalty as being motivated by a desire to concentrate one's banking business in one bank. BKLY-4 corresponds to the remaining 4 items in Table 2. It focuses on the subject's propensity to switch based on his level of satisfaction/dissatisfaction with his current bank(s).

The subjects in the study were members of the Consumer Mail Panel maintained by Market Facts, Inc., U.S.A. in a large Northern U.S. metropolitan city. They were selected to match the socio-economic and demographic profiles of the residents in the metropolis. Usable questionnaires were returned by 538 households representing a response rate of over 70%.

Each panel member was requested to provide information about their familiarity with and usage of different financial services and agreement with a set of attitudinal statements on 6-point Likert-type scales. This information was used to develop the earlier mentioned four measures of bank loyalty.

To investigate differences between bank loyals and bank disloyals, distributions of BKLY-1, BKLY-2, BKLY-3, and BKLY-4 were independently split into approximately equal fourths. Subjects in the top and bottom fourths were classified as bank loyals and bank disloyals.

Bank loyalty and banking behavior/attitudes

A first test of the strategic interest of having and maintaining loyal customers is whether loyal customers differ from disloyal customers in their reactions and vulnerability to the sales promotion tactics used by competitors. This is a crucial information for bank marketing managers to have since it suggests ways of better allocating their promotional budgets to certain targets and activities:

H_1: Bank loyal customers are less bank deal-prone than non loyal customers.

Bank deal proneness was operationalized by using the 3 items in Table 3.

H_1 was tested through an ANOVA design with the various measures of bank loyalty as the independent variable and bank deal proneness as the dependent variable. As predicted, bank loyal subjects reported lower deal proneness (see Table 4).

TABLE 1

BANKING SERVICES USED TO DETERMINE BANK LOYALTY (BKLY-1)

1.	Regular Savings Account (Statement)	7.	Line of Credit
2.	Regular Savings Account (Passbook)	8.	Term Account
3.	Regular Checking Account	9.	Savings Bank Life Insurance
4.	Mortgage	10.	Home Improvement Loan
5.	NOW Account	11.	Credit Card
6.	Club Account	12.	Personal Loan

TABLE 2

ITEMS USED TO MEASURE BANK LOYALTY INDEX (BKLY-2)*

1. Unless I am very dissatisfied with that bank, changing a checking account from one bank to another is too much of a bother.

2. Lower checking account charges at another bank would convince me to switch my account there.

3. As long as the present service continues, I doubt that I would switch from my present bank.

4. I have never switched an account because of either bad service or some annoying incident at a bank.

**5. I would rather do all my banking business with one bank even if another bank offered a slightly better deal on a loan or savings account.

**6. It is better to do all your banking in one bank because then they have a better overall picture of all your financial situation.

* Answers were recorded on 6-point scales (6 = definitely agree, 1 = definitely disagree).

** Items constituting the loyalty index BKLY-3.

TABLE 3

BANK DEAL PRONENESS INDEX*

1. Banks which give out gifts or discount coupons for opening a new account or adding money to an existing account are foolish.

2. I have opened a savings account just to receive a gift premium.

3. If I had a term account just reaching maturity, I would transfer it to another bank if that bank offered a free gift or discount coupon for opening a new account.

* Answers were recorded on 6-point scales (6 = definitely agree, 1 = definitely disagree).

TABLE 4

BANK DEAL PRONENESS AND BANK LOYALTY

Bank Loyalty	DF	F	P
BKLY-1	1,273	14.072	0.00
BKLY-2	1,301	16.173	0.00
BKLY-3	1,263	15.228	0.00
BKLY-4	1,276	7.209	0.00

These findings cast some light on the banking behavior of loyal customers. One could hypothesize that they exhibit loyal behavior because they are less interested in deals offered by competing banks to potential switchers. Another and complementary explanation is perhaps that they see the various banks as offering similar services and hence believe that bank switching or multi-bank patronage is not worth the extra effort in the long term. To investigate differences in perceived bank market differentiation an index composed of the three items in Table 5 was created, to test the following hypothesis:

H_2: Bank loyal customers perceive less variation in the bank market than do non loyal customers.

H_2 was tested through an analysis of variance (ANOVA) design, with perceived market differentiation as the dependent variable and the various measures of bank loyalty as the independent variable. Results are presented in Table 6.

As expected, bank loyals were generally found to see less variation in the market place. This was true however for only three (BKLY-2, BKLY-3, BKLY-4) out of the four measures of BKLY and hence the above finding must be accepted with some caution. To attract loyal customers away from other banks would then require substantial investments in increasing their level of awareness of between-bank differences. Unless this is achieved first, it is unlikely that any form of promotional campaign would be efficient with loyal customers.

At this point, it seems natural to ask whether bank loyal customers are able/willing to make better use of the full spectrum of banking/investment services offered in the market. To answer this question subjects were asked to indicate which of the 12 bank accounts or investment services listed in Table 7 they were currently holding. Using analysis of variance, the following hypothesis was tested:

H_3: Bank loyal customers use fewer financial/investment services than customers who are not loyal.

Results are as expected. They are given in Table 8.

The fact that bank loyals use fewer financial/investment services can be attributed to the following reasons:

a) they are less interested in banks, in general (H_4).

b) they have less positive attitudes regarding borrowing money (H_5).

c) they have less positive attitudes regarding tying up their money (H_6).

d) they are less familiar with the various bank services available (H_7).

TABLE 5

PERCEIVED BANK MARKET DIFFERENTIATION INDEX*

1. All banks are just alike.

2. A person should not change a checking account from one bank to another because the checking accounts offered by various banks are so similar.

3. Life insurance rates at all savings banks are the same.

* Answers are recorded on 6-point scales (6 = definitely agree, 1 = definitely disagree).

TABLE 6

PERCEIVED BANK MARKET DIFFERENTIATION AND BANK LOYALTY

Bank loyalty	DF	F	P
BKLY-1	1,273	1.452	0.23
BKLY-2	1,300	27.34	0.00
BKLY-3	1,263	18.464	0.00
BKLY-4	1,276	25.17	0.00

e) they are less innovative regarding the adoption of bank services (H_8).

To test the above 5 hypotheses the following indexes were constructed. General interest in banks was measured by summing up answers to the two following questions, with answers recorded on 6-point scales (6 = definitely agree, 1 = definitely disagree):

1. "My bank is very important to me."

2. " I rarely think about banks."

Using an analysis of variance, no significant difference was found between loyals/non loyals with respect to general interest in banks.

Attitudes regarding borrowing money and tying up one's money were measured by summing up answers to the items in Tables 9 and 10, respectively. The ANOVA results are as expected. They are presented in Table 11. Bank loyal customers tend to have less positive attitudes regarding borrowing and tying up money.

Another important characteristic is the level of knowledge loyal customers have about the bank system. Previous research (e.g. Goldman, 1977/78) suggests that store loyal consumers tend to know less about the market. An explanation for this is that they engage in less external search for information (Pinson, Jain, Malhotra, 1980). At least two variables can be used to measure the level of knowledge customers have about their banking environment. The first refers to their familiarity with the banks existing in their area. The second indicates a more detailed level of knowledge. This is the customer's familiarity with the specific services offered by the various banks in his area. As indicated earlier, it was hypothesized that bank loyal customers tend to be less familiar with the various services offered by banks in their area (H_7).

Familiarity with bank services was operationalized in two ways. The first measure, FAM-1 was obtained by summing up answers to the 7 items in Table 12. The second measure, FAM-2 was more product-specific, in that respondents were asked to indicate how familiar they were with the following 7 services: term saving accounts, paying-bills-by-phone service, department store and supermarket banking, automatic teller machine, statement savings account, interest bearing checking account, and money market account. Answers were recorded on 6-point scales (1 = very unfamiliar, 6 = very familiar).

As before, analyses of variance were run, using the various measures of bank loyalty as independent variables and the two measures of familiarity FAM-1, and FAM-2 as the dependent variables. The results are presented in Table 13. They confirm the hypothesis that bank loyals tend to be less familiar with the various services offered by banks in their area. This is particularly true for the newer services. This indicates that banks have to make a special effort to better reach and "educate" these customers. To illustrate the opportunity cost suffered

TABLE 7

LIST OF FINANCIAL/INVESTMENT SERVICES

1.	Regular Checking Account	7.	Term Savings Account
2.	Interest Bearing Checking Account	8.	Pay-Bills-By-Phone Account
3.	Regular Savings Account	9.	Money Market Account
4.	Savings Bank Life Insurance	10.	U.S. Treasury Bills
5.	Account Allowing Banking at Supermarkets and Department Stores	11.	Credit Union Savings Account
6.	Money Market Account	12.	Municipal Bond

TABLE 8

BANK LOYALTY AND NUMBER OF FINANCIAL/
INVESTMENT SERVICES USED

Bank Loyalty	DF	F	P
BKLY-1	1,273	13.281	0.00
BKLY-2	1,300	36.748	0.00
BKLY-3	1,263	32.450	0.00
BKLY-4	1,276	15.752	0.00

TABLE 9

GENERAL ATTITUDES REGARDING BORROWING MONEY*

1. I like to pay cash for everything I buy.
2. To buy anything other than a house or car on credit is unwise.
3. Applying for loan is often embarrassing.
4. I think that borrowing gets to be a bad habit.
5. Borrowing money makes me very uncomfortable.
6. Loans tend to cause more problems than anticipated.
7. A person should not borrow to buy luxury items such as a color TV.

TABLE 10

GENERAL ATTITUDES REGARDING TYING UP MONEY*

1. I am hesitant to put some of my savings into a term account because I may need the money on short notice.
2. I don't like to tie up my money in a term account for longer than a year even if I get a higher interest rate.
3. I prefer stocks with dividend yields over term savings accounts since they do not require a long term commitment.
4. Because I may need money on short notice, I am hesitant to put some of my money into a term savings account.
5. Even if I get a higher interest rate, I don't like to tie up money in a term account for longer than a year.
6. The interest penalties for an early withdrawal from a term savings account keeps me from investing in this type of account.

* Answers are recorded on 6-point scales (6 = definitely agree, 1 = definitely disagree).

TABLE 11

BANK LOYALTY AND ATTITUDES REGARDING BORROWING AND TYING UP MONEY

ATTITUDES REGARDING BORROWING

Bank Loyalty	DF	F	P
BKLY-1	1,203	0.108	0.74
BKLY-2	1,300	13.345	0.00
BKLY-3	1,263	11.684	0.00
BKLY-4	1,276	6.504	0.01

ATTITUDES REGARDING TYING UP MONEY

Bank Loyalty	DF	F	P
BLTY-1	1,273	5.061	0.00
BLTY-2	1,300	4.971	0.02
BLTY-3	1,263	16.926	0.00
BLTY-4	1,276	0.047	0.82

TABLE 12

FAMILIARITY WITH BANK SERVICES*

1. The new services that the banks have introduced in the last two years are very confusing.

2. The many different types of bank accounts are very confusing to me.

3. Bank statements are difficult to understand.

4. I don't understand pay-by-phone; it is very confusing.

5. I understand the penalties associated with premature withdrawal of term accounts.

6. I do not understand the differences between various term accounts.

7. I do not understand Savings Bank Life Insurance.

* Answers were recorded on 6-point scales (6 = definitely agree, 1 = definitely disagree).

TABLE 13

BANK LOYALTY AND FAMILIARITY WITH BANK SERVICES

Bank Loyalty	Familiarity	DF	F	P
BKLY-1	FAM-1	1,273	13.04	0.00
	FAM-2	1,271	0.18	0.66
BKLY-2	FAM-1	1,300	21.51	0.00
	FAM-2	1,295	21.41	0.00
BKLY-3	FAM-1	1,263	27.55	0.00
	FAM-2	1,260	4.30	0.03
BKLY-4	FAM-1	1,267	4.73	0.03
	FAM-2	1,272	22.71	0.00

by the bank because of this lack of familiarity by loyal customers, the hypothesis that bank loyals are less innovative in their reaction to newer bank services than customers who exhibit a lower degree of bank loyalty (H_8) was tested.

Bank innovativeness was measured by summing up answers to the 16 items presented in Table 14. The ANOVA results are presented in Table 15. They are inconsistent across the various measures of bank loyalty used. If one uses BKLY-1, then one finds that loyals are more innovative, whereas an opposite finding is obtained if one uses BKLY-2, BKLY-3, or BKLY-4.

COGNITIVE STYLE AND BANK MARKET SEGMENTATION

As indicated earlier the concept of cognitive style refers to the characteristic ways in which individuals seek, filter, and process information from their environment. Among the many different cognitive styles which have been studied (for a review, see Pinson, 1978) the concept of tolerance for ambiguity seems particularly relevant to some of the issues and hypotheses discussed earlier in this paper.

The term "Tolerance of Ambiguity" (TA) has been used in cognitive psychology to describe individual differences in reacting to situations which a) can be interpreted in multiple ways, or b) cannot be interpreted in terms of habitual modes of cognition or c) include competing cues evocative of cognitive conflict and imbalance (Kreitler, Maguen, and Kreitler, 1975).

Previous research by the authors (Pinson, Jain, Malhotra, 1980) indicates that consumers intolerant of ambiguity tend to engage in lesser external search for information, and tend to be more store loyal than consumers more tolerant of ambiguity. To test the relevance of these findings for bank segmentation research the following hypothesis was offered:

H_9: Customers intolerant of ambiguity tend to exhibit higher bank loyalty.

Tolerance of ambiguity (TA) was measured by using Budner's Test (1962). The test is self-administered and takes about 15 minutes to complete. It contains 16 items, each scored along a 6-point agree-disagree continuum (Likert type). A sample item is "An expert who does not come up with a definitive answer probably does not know too much". The range of possible scores on the test is from 16 to 112 with a high score indicating intolerance or ambiguity. The distribution of TA was split into approximately equal fourths and subjects with scores in the top (above 65) and bottom (below 52) fourths of the distribution were classified as intolerants and tolerants, respectively[2].

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[2] Resource limitations restricted administration of cognitive style tests to all subjects of the mail panel. For this segment of the analysis, data were available from only 281 panel members.

TABLE 14

INDEX OF INNOVATIVENESS REGARDING BANK SERVICES*

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1. I would use banking facilities in department stores and supermarkets to make deposits and withdrawals to my checking account.

2. Like a lot of machines today, the automatic teller machine probably won't work when you need it most.

3. Having bank facilities in supermarkets is a good idea.

4. Automatic teller machines are a very convenient way to do most of your banking.

5. I do not trust the accuracy of bank facilities in department stores and supermarkets.

6. I would probably use banking facilities in department stores and supermarkets to withdraw money from my checking or savings account.

7. I would not use banking facilities in department stores and supermarkets to make deposits and withdrawals to my savings account.

8. I would not use banking facilities in department stores and supermarkets to deposit money into my checking or savings account.

9. I worry that a bank that has many new services may neglect important services such as checking and savings accounts.

10. If I could make deposits and withdrawals at department stores and supermarkets, I would not mind using a plastic card instead of a savings account passbook.

11. I would like to use automatic teller machines to save time spent standing in line.

12. I don't trust the people at the bank enough to allow them to conduct a bill payment for me.

13. Automatic teller machines are another sign that banks are just cold, impersonal institutions.

14. I have no need for banking services other than savings, checking, loans, and mortgages.

15. People who use automatic teller machines are in some danger of being mugged.

16. The idea of paying bills by phone is just too confusing.

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* Answers were recorded on 6-point scales (6 = definitely agree, 1 = definitely disagree).

TABLE 15

BANK LOYALTY AND INNOVATIVENESS REGARDING BANK SERVICES

Bank Loyalty Measure	DF	F	P
BKLY-1	1,273	13.042	0.00
BKLY-2	1,300	20.68	0.00
BKLY-3	1,263	15.228	0.00
BKLY-4	1,276	30.95	0.00

TABLE 16

TOLERANCE OF AMBIGUITY AND BANK LOYALTY

Bank Loyalty	DF	F	P
BKLY-1	1,126	1.35	0.24
BKLY-2	1,139	10.75	0.00
BKLY-3	1,139	6.07	0.01
BKLY-4	1,139	8.12	0.00

Subjects in the middle were excluded so as to obtain groups sharply contrasted with respect to Tolerance of Ambiguity. Bank loyalty was measured by the four measures BKLY-1, BKLY-2, BKLY-3 and BKLY-4. H_9 was tested through analysis of variance (ANOVA) with TA as the independent variable and the four measures of bank loyalty as the dependent variables.

The ANOVA results are presented in Table 16. As predicted, intolerants of ambiguity exhibited greater bank loyalty for three out of four measures of bank loyalty.

To gain further insight into the behavior and attitudes of those customers intolerant of ambiguity the following six hypotheses were tested using an analysis of variance approach:

H_{10}: Because they engage in lesser external search for information, intolerants tend to perceive less variation in the bank market than do people more tolerant of ambiguity.

Perceived bank market differentiation was measured as earlier indicated i.e. by summing up answers to the items in Table 5. As predicted, subjects intolerant of ambiguity perceived the bank market to be less differentiated than did subjects tolerant of ambiguity ($F = 3.47$, df : 1,139, $p = 0.06$).

The intolerant's negative reaction to ambiguous situations should plainly reveal itself in cases where the individual is confronted with the uncertainties associated with soliciting a loan and tying up his money in certain bank accounts. Hence the following two hypotheses seem rather obvious:

Bank customers intolerant of ambiguity tend to have less positive attitudes regarding borrowing (H_{11}) and tying up money (H_{12}) than do customers tolerant of ambiguity.

Attitudes regarding borrowing and tying up money were measured as previously i.e. by summing up answers to items in Tables 9 and 10, respectively. As expected, intolerants were found to have more negative attitudes regarding borrowing ($F = 7.732$, df = 1,139, $p = 0.00$), and tying up money ($F = 3.165$, df = 1,139, $p = 0.07$).

A study by Blake et al (1973) suggests that the intolerants' aversion for ambiguity extends to the adoption of new products. It was then hypothesized that customers intolerant of ambiguity tend to be less innovative in their adoption of bank services (H_{13}). As previously, the innovativeness of subjects regarding certain bank services was measured by using the 16 items in Table 14. The hypothesis was confirmed ($F = 7.235$, df = 1,139, $p = 0.00$).

An obvious cause/consequence of this finding may be that intolerants are less familiar with available bank services than are tolerants (H_{14}). To test this hypothesis, subjects' familiarity with bank services was operationalized by using the two measures FAM-1 and FAM-2 described

earlier in this paper. An analysis of variance indicated empirical support for hypothesis H_{14} (FAM-1: $F = 6.276$, $df = 1,139$, $p = 0.01$; FAM-2: $F = 3.78$, $df = 1,139$, $p = 0.05$).

Finally, the following hypothesis was offered:

H_{15}: Customers intolerant of ambiguity utilize fewer financial/investment services than customers who are tolerant.

An analysis of variance showed that indeed intolerants utilize fewer of the various financial/investment services listed in Table 7 than do tolerants ($F = 5.98$, $df = 1,139$, $p = 0.01$).

CONCLUSION

The present study provides empirical evidence that bank marketing managers should pay more attention to the attitudinal and behavioral profiles displayed by their loyal customers. A more innovative outcome of this research project is probably the discovery that a particular accommodation cognitive style (tolerance of ambiguity) can be fruitfully incorporated into a segmentation framework. More specifically those consumers who are intolerant of ambiguity tend to be more bank loyal, to engage in less external search for information, to have less positive attitudes regarding borrowing and tying up their money. As a result they tend to use fewer of the available financial/investment services.

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